

PATENT APPLICATION  
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NIT-259

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

APPLICATION OF )  
SHINICHI TSUBOI ET AL ) GROUP NO: 1616  
SERIAL NO.: 09/886,197 ) EXAMINER: S. N. QAZI  
FILED: JUNE 21, 2001 )  
TITLE: AGENTS FOR PRESERVING )  
TECHNICAL MATERIALS )  
AGAINST INSECTS )

**DECLARATION UNDER 37 CFR 1.132**

Commissioner for Patents  
Alexandria, VA 22313-1450

Sir:

I, Dr. Thomas Jaetsch of Merlostr. 22, 50688 Köln, Germany declare as follows:

1. I studied chemistry at the Technical University of Berlin, Germany, and the University of Münster, Germany, and obtained a doctor's degree in chemistry at the University of Münster in 1990. I was post-doctoral fellow at the Massachusetts Institute of Technology from March 1991 until May 1992. Since 1992 I have been employed by Bayer AG, Bayer Chemicals AG and its successor company Lanxess Deutschland GmbH in Leverkusen, Germany and Krefeld, Germany, respectively, where I have specialized in material (wood) protection.

2. I am familiar with the subject matter of the above-identified United States patent application.

3. I requested the experiments described in the attached technical report that were carried out by Materialprüfungsamt des Landes Brandenburg ("MPA") of

Eberswalde, Germany, and analyzed the screening test results received from MPA in the attached report as described below.

Screening tests for efficacy against wood-damaging termites (*Reticulitermes santonensis*) were carried out according to SAA 32 E 08 as described in the attached report from MPA. The test results are shown in Table A below (copied from the report received from MPA):

Table A  
Wood damaging termites (*Reticulitermes santonensis*)  
Test (MPA, SAA 32 E 08)

Active ingredient	concentration ppm	mortality % after 14 days	
Tebuconazole	10	5	
Imidacloprid	1	30	
Imidacloprid + Tebuconazole (1 : 10)	1 + 10	found* 100	calc.** 33.5

\* found = real activity in biological testing

\*\* calc. = calculated activity using the Colby formula

Based on my analysis of the screening data, I have concluded that the combination of imidacloprid and tebuconazole tested in accordance with the present application showed a synergistically enhanced activity when compared to the separately tested individual active compounds.

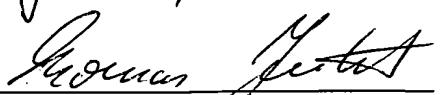
4. The test results show that the tested combination of imidacloprid and tebuconazole in accordance with the present application showed a synergistically enhanced activity compared to the active compounds tested individually.

5. The undersigned declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code

and that such willful false statements may jeopardize the validity of the application or any patent issuing therefrom.

Further Declarant Sayeth Not.

Signed at Krefeld, this 20th day of January, 2005.



Dr. Thomas Jaetsch

**Materialprüfungsamt des  
Landes Brandenburg**  
Außenstelle Eberswalde  
Alfred-Möller-Str. 1, 16225 Eberswalde



Screening test according to SAA 32 E 08 - Efficacy against termites -

**Brief description**

Round test specimens of filter paper (diameter = 20 mm, thickness = 0,25 mm, volume = 78,5mm<sup>3</sup>) are treated with 0,1 ml solution of different test substance concentrations and exposed to termite attack in petri dishes. For every concentration three petri dishes, each with 20 working caste termites are used. All petri dishes of the same concentration are stored in a closed plastic container above saturated NaCl-solution. The test period is 14 days.

On the 2., 4., 6., 8., 10., and 12., day of testing, the containers are opened for five minutes in order to ventilate them. On this occasion, live animals are counted and their behaviour is registered.

At the end of the test period, the efficacy of the substances tested is determined via mortality and feeding intensity on the filter papers.

Controls (filter papers with solvent but lacking active ingredients) are necessary in order to check the vitality of the termites.

***Formula for the efficacy of the combination of two compounds***

The expected efficacy of a given combination of two compounds is calculated as follows (see Colby, S.R., „Calculating Synergistic and antagonistic Responses of Herbicide Combinations“, Weeds 15, pp. 20-22, 1967):

If

X is the efficacy expressed in % mortality of the untreated control for test compound A at a concentration of m ppm,

Y is the efficacy expressed in % mortality of the untreated control for test compound B at a concentration of n ppm,

E is the efficacy expressed in % mortality of the untreated control using the mixture of A and B at m and n ppm,

$$\text{then is } E = X + Y - \frac{X \times Y}{100}$$

If the observed insecticidal efficacy of the combination is higher than the one calculated as „E“, then the combination of the two compounds is more than additive, i.e., there is a synergistic effect.

Table A  
wood damaging termites

**Reticulitermes santonensis-Test (MPA, SAA 32 E 08)**

Active ingredient	concentration in ppm	mortality in % after 14 days
<b>Tebuconazole</b>	10	5
<b>Imidacloprid</b>	1	30
<b>Imidacloprid + Tebuconazole (1 : 10)</b>	1 + 10	<b>found*      cal.**</b> 100      33.5

\* found = real activity in biological testing

\*\* cal. = calculated activity using the Colby-Formula